

BEAM COMBINATION USING INTERLEAVED OPTICAL PLATES

ABSTRACT OF THE DISCLOSURE

In a system and method, the emitted beams of multiple diode bar array assemblies are
5 combined to achieve an increase in the resulting power density in the combined output beam,
while addressing the need for heat distribution in each of the individual assemblies. The present
invention enables the combination of output planes of illumination, to form a single, merged
beam of area A_g having intensity $I_M \sim M * I_{stack}$ and brightness $B_M \sim M * B_{stack}$, where I_{stack} and B_{stack}
refer respectively to the intensity and brightness of the output plane of illumination of a single
10 stacked array, and where I_M and B_M refer respectively to the intensity and brightness of the
combined output plane of illumination of M stacked arrays. In this manner, the present invention
is useful in applications where there is a need for high-intensity, high-brightness light energy.